

Trend Study 11B-6-00

Study site name: Upper Cottonwood.

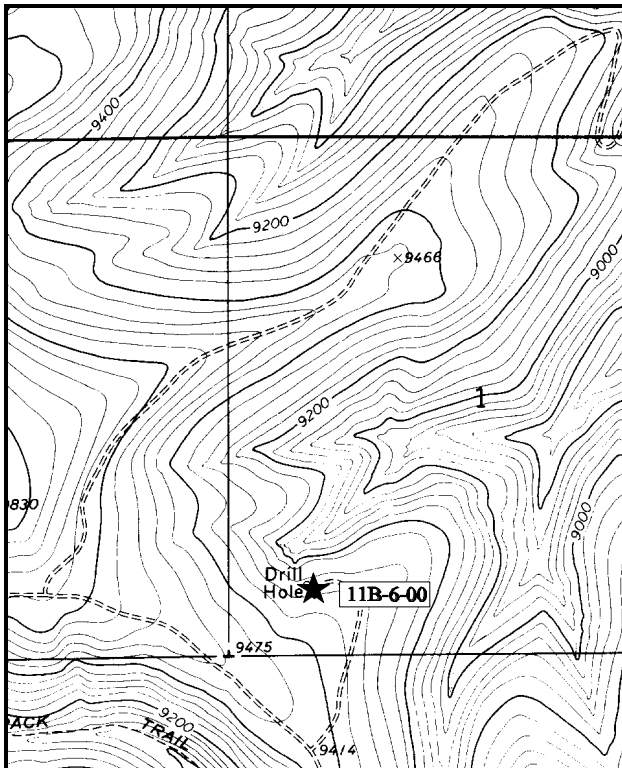
Range type: Dry Meadow.

Compass bearing: frequency baseline 165°M.

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

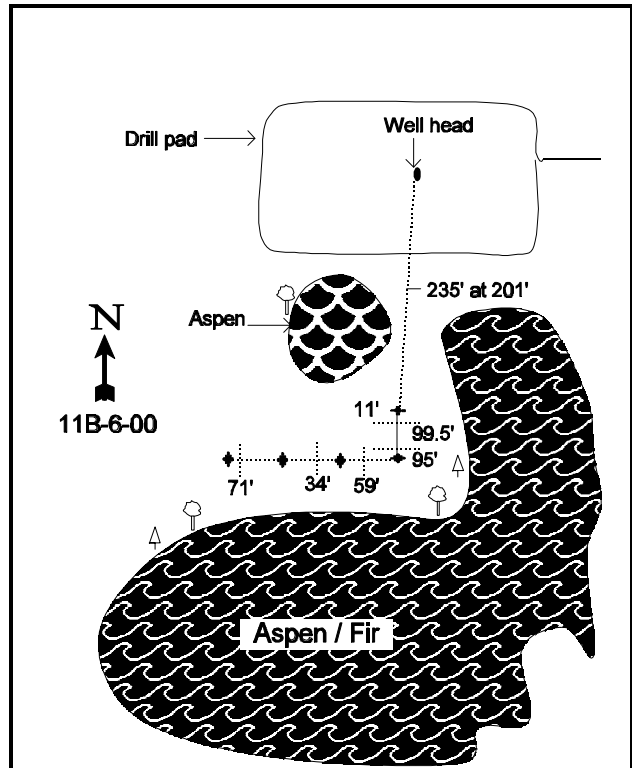
LOCATION DESCRIPTION

From Sunnyside, proceed up Water Canyon to the summit at Bruin Point (approximately 5.6 miles). Take the middle fork and go 0.35 miles to a cattle guard. Stay right just beyond the cattle guard and proceed 0.85 miles to an intersection. Go straight through the intersection and go 1.8 miles to a fork. Turn left and go 0.45 miles to the end of the road, an oil drilling pad. The baseline is located 235 feet south (201°) of the well head. The 0-foot end of the frequency baseline is marked by a 4-foot tall fence post tagged #7835.



Map Name: Bruin Point

Township 14S, Range 14E, Section 1



Diagrammatic Sketch

UTM. 4386718.631 N, 559717.686 E

DISCUSSION

Trend Study No. 11B-6 (32-10)

The Upper Cottonwood transect is located in an open meadow surrounded by quaking aspen, subalpine fir, and Douglas fir. The high, cool north-facing slope supports an abundant variety of plant life at an elevation of 9,300 feet. The meadow is near the ridge top at the headwaters of Cottonwood Creek where the slope is 15% to 22%. The slope gets progressively steeper towards the bottom of the small canyons. The lack of a permanent water source nearby limits the use of the area by big game during the summer. Historically, cattle have been given season long use of the large Green River allotment, however this allotment has not been grazed since 1994. The large allotment is divided into 8 pastures which are permitted to be used from February 1st through October 15th for a total of 3,038 AUM's.

Oil and gas exploration has been carried out in the area in the past, but there are no signs of any current activity. An extensive road system encourages recreational use by the public throughout the area. There is evidence of vehicles driving off-road into the meadows. Camping activity has taken place, most likely during the summer and the deer hunt. Little deer sign was noted in 1994 as evidenced by the pellet group quadrat frequency of only 2%. Elk were more numerous on the site with a quadrat frequency of 17%. Data from the 2000 reading shows a quadrat frequency of 12% for elk pellet groups and a pellet group transect taken along the study site baseline estimates 25 elk and 8 deer days use/acre (62 edu/ha and 20 ddu/ha). Most of the deer and elk pellet groups appear to be from the spring.

Typical of high elevation sites with approximately 20 inches of annual precipitation, there is abundant plant life associated with fairly deep soils rich with organic matter (5.5% O.M.). Effective rooting depth is estimated at 17 inches. There is very little rock on the surface but occasional rocks are found in the profile. The soil itself is a clay loam with a neutral soil reaction (6.7 pH). Total ground cover from vegetation and litter is quite high and there is little unprotected bare soil.

The meadow provides succulent herbaceous forage on this summer range for both deer and elk. Browse is an insignificant vegetative component on this study site. However, a few seedling and young aspens provide some forage which had been moderately to heavily browsed in 1986. Heavy browsing could affect aspen regeneration in the meadow. The study site baseline was lengthened in 1994, but aspen was mistakenly not sampled in the shrub density strips so no comparisons can be made with the 1986 data. In 2000, there were an estimated 1,480 aspen trees/acre, 78% of which are young trees. Use on all aspen sampled appeared light. Some gooseberry current occurs in scattered patches. Even with it's prickly traits, it is still moderately palatable. Also present in the opening is mountain snowberry and scattered mountain big sagebrush. The site is surrounded by large mature aspen, subalpine fir, and Douglas fir which are slowly moving in from the edges.

The herbaceous understory is abundant and diverse, yet dominated by the increasers Kentucky bluegrass and dandelion which currently ('00) provide 59% of the herbaceous cover. Kentucky bluegrass forms a thick lawn-like cover over the meadow. The dense, vigorous root system and sod formed by the Kentucky bluegrass provides excellent erosion control. Other species (sedges and several bunchgrasses) are less abundant although they also provide additional forage. Forbs are an important source of forage for deer and elk on summer range. The forb composition is diverse with over 20 species sampled in 1994 and 2000. Dandelion dominates the composition and accounted for 61% of the forb cover in 1994 and 53% in 2000. Other more desirable, late serial forbs are present but in low numbers.

1986 APPARENT TREND ASSESSMENT

The soil, although potentially erodible, is well protected with herbaceous species and the trend appears stable. Vegetative trend also appears stable as invasion of the meadow by woody species is advancing slowly. The dense herbaceous component and some selective hedging on the browse species will help to slow the advancing invasion. However, conifers will eventually establish further into the opening and shade out more of the meadow if no action is taken. This would indicate a very long-term downward trend in terms of big game summer range. Fire is a way to maintain these openings if it can be done safely and efficiently. It is desirable to maintain these scattered open meadows with abundant "edge", especially for elk habitat. The herbaceous component, which is less diverse and abundant in the surrounding forest, provides important spring and summer forage for deer and elk.

1994 TREND ASSESSMENT

There is still an excellent herbaceous cover protecting the soil surface with percent bare ground decreasing since 1986. Trend for soils is up slightly. The trend for browse is slightly down, but for this summer range it is not a critical component as it contributes only 18% of the vegetative cover. Trend for the herbaceous understory is slightly up because of the moderate increase in the total nested frequency value for perennial grasses. The forbs and grasses contribute almost equal amounts of cover, 12% and 13% vegetative cover respectively.

TREND ASSESSMENT

soils - slightly improving (4)

browse - slightly down, but not critical for summer range (2)

herbaceous understory - slightly up (4)

2000 TREND ASSESSMENT

Trend for soil is stable with similar relative cover values of protective ground cover compared to 1994. There is no problem with erosion on the site. Browse is not an important component on this summer range but density of mountain big sagebrush and gooseberry currant have increased. A negative aspect to the browse trend is the increase in conifer cover. The browse trend is considered stable. The herbaceous understory is the key component on this summer range. Forbs and grasses are diverse and abundant but the grass component is dominated by the increaser, Kentucky bluegrass which currently accounts for 67% of the grass cover. Other common native grasses include blue wildrye and subalpine needlegrass. Nested frequency of Kentucky bluegrass has declined significantly since 1994 while subalpine needlegrass has increased significantly. Sum of nested frequency of all perennial grasses has declined slightly. The forb composition is dominated by the increaser, dandelion, which provides 53% of the forb cover. It has remained stable in nested frequency since 1994. Overall, cover of forbs has increased from 12% to 17% since the last reading. Sum of nested frequency has also increased. With this in mind, trend for the herbaceous understory is considered stable.

TREND ASSESSMENT

soils - stable (3)

browse - stable, but not critical for summer range (3)

herbaceous understory - stable, but composition poor (3)

HERBACEOUS TRENDS --

Herd unit 11B, Study no: 6

| Type | Species | Nested Frequency | | | Quadrat Frequency | | | Average Cover % | |
|-----------------------------|-------------------------------|------------------|------------------|------------------|-------------------|-----|-----|-----------------|-------|
| | | '86 | '94 | '00 | '86 | '94 | '00 | '94 | '00 |
| G | Agropyron spicatum | 3 | - | - | 2 | - | - | - | - |
| G | Bromus carinatus | _b 73 | _a 6 | _a 27 | 31 | 4 | 10 | .07 | .44 |
| G | Carex spp. | _a 22 | _b 39 | _{ab} 26 | 9 | 17 | 15 | .13 | .35 |
| G | Elymus glaucus glaucus | _a 2 | _b 75 | _b 64 | 2 | 29 | 22 | .64 | 1.11 |
| G | Poa fendleriana | _b 5 | _a - | _{ab} 3 | 3 | - | 1 | - | .03 |
| G | Poa pratensis | _b 307 | _b 289 | _a 241 | 85 | 84 | 72 | 11.51 | 7.83 |
| G | Stipa columbiana | _a - | _b 23 | _c 63 | - | 13 | 29 | .33 | 1.69 |
| G | Stipa lettermani | _a 1 | _b 55 | _a 22 | 1 | 23 | 8 | .33 | .17 |
| G | Trisetum spicatum | _b 6 | _b 14 | _a - | 4 | 5 | - | .22 | - |
| Total for Annual Grasses | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total for Perennial Grasses | | 419 | 501 | 446 | 137 | 175 | 157 | 13.25 | 11.63 |
| Total for Grasses | | 419 | 501 | 446 | 137 | 175 | 157 | 13.25 | 11.63 |
| F | Achillea millefolium | _b 160 | _b 144 | _a 91 | 67 | 58 | 39 | 1.52 | .81 |
| F | Agoseris aurantiaca | _a 10 | _a 7 | _b 62 | 5 | 4 | 27 | .02 | .44 |
| F | Antennaria parvifolia | 37 | 38 | 41 | 16 | 16 | 17 | .45 | 1.33 |
| F | Androsace septentrionalis (a) | - | - | 39 | - | - | 17 | - | .33 |
| F | Aquilegia coerulea | _b 8 | _a - | _a - | 4 | - | - | - | - |
| F | Arabis drummondi | _a 1 | _b 17 | _b 9 | 1 | 8 | 5 | .04 | .05 |
| F | Astragalus miser | _{ab} 20 | _a 5 | _b 36 | 8 | 3 | 15 | .01 | .42 |
| F | Aster spp. | _a - | _b 41 | _c 89 | - | 17 | 33 | .36 | 1.26 |
| F | Calochortus gunnisoni | _b 13 | _a - | _a - | 6 | - | - | - | - |
| F | Chaenactis douglasii | _a - | _b 9 | _a - | - | 3 | - | .01 | - |
| F | Chenopodium fremontii (a) | - | - | 2 | - | - | 1 | - | .03 |
| F | Cirsium calcareum | 15 | 24 | 9 | 8 | 13 | 5 | .26 | .02 |
| F | Comandra pallida | _a - | _a - | _b 17 | - | - | 9 | - | .14 |
| F | Collinsia parviflora (a) | _a - | _a - | _b 7 | - | - | 4 | - | .02 |
| F | Descurainia pinnata (a) | _a - | _a - | _b 32 | - | - | 14 | - | .24 |
| F | Erigeron speciosus | 5 | 11 | 17 | 3 | 5 | 6 | .10 | .22 |
| F | Fragaria vesca | _a 8 | _b 39 | _{ab} 21 | 3 | 13 | 9 | .70 | .41 |
| F | Gayophytum ramosissimum (a) | - | - | 4 | - | - | 3 | - | .04 |
| F | Gentiana prostrata | _a - | _a - | _b 35 | - | - | 14 | - | .63 |
| F | Lupinus argenteus | _a 2 | _a 1 | _b 10 | 1 | 1 | 5 | .03 | .39 |
| F | Monardella odoratissima | _b 4 | _a - | _a - | 3 | - | - | - | - |
| F | Osmorhiza occidentalis | - | 5 | 3 | - | 3 | 2 | .04 | .01 |
| F | Phlox longifolia | _c 22 | _b 10 | _a - | 11 | 5 | - | .02 | - |
| F | Polygonum douglasii (a) | _a - | _b 74 | _a 5 | - | 28 | 2 | .16 | .01 |

| T y p e | Species | Nested Frequency | | | Quadrat Frequency | | | Average Cover % | |
|---------------------------|--------------------------|------------------|------------------|-------------------|-------------------|-----|-----|-----------------|-------|
| | | '86 | '94 | '00 | '86 | '94 | '00 | '94 | '00 |
| F | Potentilla gracilis | - | 3 | - | - | 2 | - | .01 | - |
| F | Ranunculus alismaefolius | _b 45 | _a 14 | _a 12 | 23 | 7 | 5 | .03 | .36 |
| F | Silene menziesii | _b 30 | _b 35 | _a 2 | 14 | 15 | 1 | .15 | .00 |
| F | Taraxacum officinale | _a 236 | _b 255 | _{ab} 253 | 84 | 84 | 86 | 7.49 | 9.01 |
| F | Thalictrum fendleri | _a - | _{ab} 4 | _b 7 | - | 2 | 3 | .03 | .01 |
| F | Unknown forb-perennial | _b 58 | _a - | _a - | 23 | - | - | - | - |
| F | Viola adunca | 54 | 53 | 56 | 25 | 23 | 29 | .34 | .87 |
| F | Vicia americana | _b 12 | _{ab} 6 | _a - | 5 | 2 | - | .41 | - |
| Total for Annual Forbs | | 0 | 74 | 89 | 0 | 28 | 41 | 0.16 | 0.68 |
| Total for Perennial Forbs | | 740 | 721 | 770 | 310 | 284 | 310 | 12.07 | 16.44 |
| Total for Forbs | | 740 | 795 | 859 | 310 | 312 | 351 | 12.23 | 17.12 |

Values with different subscript letters are significantly different at % = 0.10 (annuals excluded)

BROWSE TRENDS --

Herd unit 11B, Study no: 6

| T y p e | Species | Strip Frequency | | Average Cover % | |
|------------------|-------------------------------|-----------------|-----|-----------------|------|
| | | '94 | '00 | '94 | '00 |
| B | Abies lasiocarpa | 0 | 11 | 2.13 | 4.99 |
| B | Artemisia tridentata vaseyana | 4 | 5 | .03 | 1.13 |
| B | Populus tremuloides | 0 | 31 | 2.31 | 1.10 |
| B | Pseudotsuga menziesii | 0 | 0 | - | .53 |
| B | Purshia tridentata | 0 | 1 | - | - |
| B | Ribes montigenum | 14 | 17 | .82 | 1.83 |
| B | Rosa woodsii | 1 | 0 | - | - |
| B | Symphoricarpos oreophilus | 14 | 15 | .23 | .21 |
| Total for Browse | | 33 | 80 | 5.54 | 9.81 |

CANOPY COVER --

Herd unit 11B, Study no: 6

| Species | Percent Cover |
|---------------------|---------------|
| | '00 |
| Abies lasiocarpa | 6 |
| Populus tremuloides | 5 |

BASIC COVER --

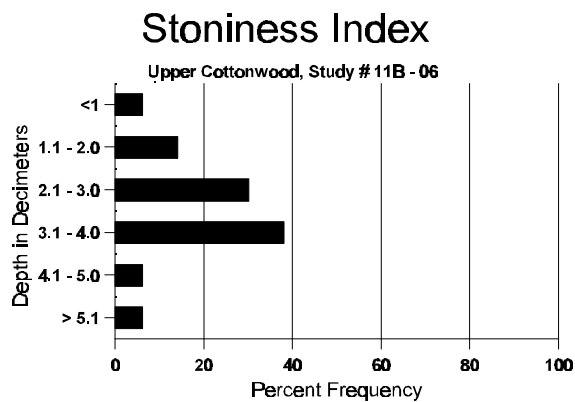
Herd unit 11B, Study no: 6

| Cover Type | Nested Frequency | | Average Cover % | | |
|-------------|------------------|-----|-----------------|-------|-------|
| | '94 | '00 | '86 | '94 | '00 |
| Vegetation | 368 | 352 | 27.75 | 36.17 | 45.02 |
| Rock | 134 | 29 | .25 | .59 | .11 |
| Pavement | 92 | 69 | .25 | .21 | .34 |
| Litter | 395 | 386 | 53.50 | 38.91 | 62.68 |
| Cryptogams | 59 | 34 | 0 | 2.36 | .65 |
| Bare Ground | 254 | 232 | 18.25 | 11.34 | 17.66 |

SOIL ANALYSIS DATA --

Herd Unit 11B, Study # 6, Study Name: Upper Cottonwood

| Effective rooting depth (inches) | Temp °F (depth) | pH | %sand | %silt | %clay | %OM | PPM P | PPM K | dS/m |
|----------------------------------|-----------------|-----|-------|-------|-------|-----|-------|-------|------|
| 17.06 | 53.4 (17.24) | 6.7 | 28.0 | 34.7 | 34.6 | 5.5 | 17.3 | 246.4 | 0.8 |



PELLET GROUP FREQUENCY --

Herd unit 11B, Study no: 6

| Type | Quadrat Frequency | | Pellet Transect | |
|--------|-------------------|-----|------------------------------|------------------------------|
| | '94 | '00 | Pellet Groups per Acre 00 | Days Use per Acre (ha) 00 |
| Rabbit | 4 | - | - | - |
| Elk | 17 | 12 | 331 | 26 (63) |
| Deer | 2 | - | 104 | 8 (20) |
| Cattle | 2 | - | - | - |

BROWSE CHARACTERISTICS --

Herd unit 11B, Study no: 6

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|--------|----------------------------|---|---|------------------|---|---|-------------------|---|---|----------------|-----|-----|------|--------------------|--------------------------------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Abies lasiocarpa | | | | | | | | | | | | | | | | | | |
| S | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 00 | 3 | - | - | - | - | - | - | - | - | 2 | 1 | - | - | 60 | | 3 | |
| Y | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 00 | 14 | - | - | - | - | - | - | - | - | 13 | 1 | - | - | 280 | | 14 | |
| M | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | |
| | 00 | 3 | - | - | - | - | - | - | 2 | - | 5 | - | - | - | 100 | - | - | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '86 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '00 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 0 | | - | | | |
| | | | | | | | | | | | | '00 | 380 | | - | | | |
| Artemisia tridentata vaseyana | | | | | | | | | | | | | | | | | | |
| Y | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | |
| | 00 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | |
| M | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | |
| | 94 | 4 | - | - | - | - | - | - | - | - | 4 | - | - | - | 80 | 23 | 20 | |
| | 00 | 5 | - | - | - | - | - | - | - | - | 5 | - | - | - | 100 | 20 | 32 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '86 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | +17% | | | | | | | |
| '00 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 100 | | - | | | |
| | | | | | | | | | | | | '00 | 120 | | - | | | |
| Cercocarpus ledifolius | | | | | | | | | | | | | | | | | | |
| S | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | |
| | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '86 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '00 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 0 | | - | | | |
| | | | | | | | | | | | | '00 | 0 | | - | | | |

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|--------|----------------------------|---|---|------------------|---|---|-------------------|----|---|----------------|-----|------|------|--------------------|--------------------------------|-----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Juniperus communis | | | | | | | | | | | | | | | | | | |
| M | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | 0 |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 26 | 120 | 0 |
| | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | 0 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '86 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '00 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 0 | | - | | | |
| | | | | | | | | | | | | '00 | 0 | | - | | | |
| Populus tremuloides | | | | | | | | | | | | | | | | | | |
| S | 86 | 3 | 1 | - | - | - | - | - | - | - | 2 | - | 2 | - | 266 | | | 4 |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| Y | 86 | 1 | 3 | 1 | - | - | - | - | - | - | 5 | - | - | - | 333 | | | 5 |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 00 | 58 | - | - | - | - | - | - | - | - | 58 | - | - | - | 1160 | | | 58 |
| M | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | 0 |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | 0 |
| | 00 | 5 | - | - | - | - | - | - | 10 | - | 15 | - | - | - | 300 | - | - | 15 |
| D | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 00 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | | 1 |
| X | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 280 | | | 14 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '86 | | 60% | | | 20% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '00 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 333 | Dec: | 0% | | | |
| | | | | | | | | | | | | '94 | 0 | | 0% | | | |
| | | | | | | | | | | | | '00 | 1480 | | 1% | | | |
| Pseudotsuga menziesii | | | | | | | | | | | | | | | | | | |
| S | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 00 | 1 | - | - | 1 | - | - | - | - | - | 2 | - | - | - | 40 | | | 2 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '86 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '00 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 0 | | - | | | |
| | | | | | | | | | | | | '00 | 0 | | - | | | |

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|--------|----------------------------|---|---|------------------|---|---|-------------------|---|---|----------------|-----|------|------|--------------------|--------------------------------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Purshia tridentata | | | | | | | | | | | | | | | | | | |
| Y | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 00 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '86 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '00 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 0 | | - | | | |
| | | | | | | | | | | | | '00 | 20 | | - | | | |
| Ribes montigenum | | | | | | | | | | | | | | | | | | |
| S | 86 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 133 | | 2 | |
| | 94 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | |
| | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| Y | 86 | 20 | - | - | - | - | - | - | - | - | 19 | - | 1 | - | 1333 | | 20 | |
| | 94 | 5 | - | - | 2 | - | - | - | - | - | 7 | - | - | - | 140 | | 7 | |
| | 00 | 2 | - | - | 1 | - | - | - | - | - | 3 | - | - | - | 60 | | 3 | |
| M | 86 | 14 | - | - | - | - | - | - | - | - | 14 | - | - | - | 933 | 25 28 | 14 | |
| | 94 | 8 | - | - | 6 | - | - | 2 | - | - | 16 | - | - | - | 320 | 26 62 | 16 | |
| | 00 | 25 | - | - | 5 | - | - | 5 | - | - | 34 | 1 | - | - | 700 | 20 43 | 35 | |
| D | 86 | 5 | - | - | - | - | - | - | - | - | 3 | - | - | 2 | 333 | | 5 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '86 | | 00% | | | 00% | | | 08% | | | -82% | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | +39% | | | | | | | |
| '00 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 2599 | Dec: | 13% | | | |
| | | | | | | | | | | | | '94 | 460 | | 0% | | | |
| | | | | | | | | | | | | '00 | 760 | | 0% | | | |
| Rosa woodsii | | | | | | | | | | | | | | | | | | |
| M | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - - | 0 | |
| | 94 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | 14 12 | 1 | |
| | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - - | 0 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '86 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '00 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 20 | | - | | | |
| | | | | | | | | | | | | '00 | 0 | | - | | | |

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) | | Total |
|--|--------|----------------------------|---|---|------------------|---|---|-------------------|---|---|----------------|-----|-----|------|--------------------|---------------------|-----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | Ht. | Cr. | |
| Symphoricarpos oreophilus | | | | | | | | | | | | | | | | | | |
| S | 86 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 133 | | 2 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| Y | 86 | 5 | - | - | - | - | - | - | - | - | 5 | - | - | - | 333 | | 5 | |
| | 94 | 6 | - | - | - | - | - | - | - | - | 6 | - | - | - | 120 | | 6 | |
| | 00 | 3 | - | - | - | - | - | - | - | - | 3 | - | - | - | 60 | | 3 | |
| M | 86 | 6 | - | - | - | - | - | - | - | - | 6 | - | - | - | 400 | 22 24 | 6 | |
| | 94 | 7 | 2 | - | 6 | - | - | - | - | - | 15 | - | - | - | 300 | 17 24 | 15 | |
| | 00 | 10 | 2 | - | 2 | - | - | - | - | - | 14 | - | - | - | 280 | 18 24 | 14 | |
| D | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 | 20 | | 1 | |
| | 00 | 1 | - | - | 1 | - | - | - | - | - | 1 | - | - | 1 | 40 | | 2 | |
| X | 86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 20 | | 1 | |
| | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| | | '86 | | | 00% | | | 00% | | | -40% | | | | | | | |
| | | '94 | | | 09% | | | 00% | | | -14% | | | | | | | |
| | | '00 | | | 11% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '86 | 733 | Dec: | 0% | | | |
| | | | | | | | | | | | | '94 | 440 | | 5% | | | |
| | | | | | | | | | | | | '00 | 380 | | 11% | | | |